

Remarks

The Rejection of Claims 12-15 under 35 U.S.C. § 102(b)

Claims 12-15 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. 4,616,517 (Esmay). Applicants respectfully traverse the rejection and request reconsideration for the following reasons.

Claim 12 now recites a microscope with a focus adjustment means comprising: a first focus adjustment knob, a removable focus adjustment knob, and a focus drive means. The focus drive means has a planar outer surface that the removable focus adjustment knob is removably attachable. Claim 12 also recites the limitation that the removable focus adjustment knob is removably attached to the left or the right side the microscope. The first focus adjustment knob and the removable focus adjustment knob are coaxially and *independently rotatable at the same time*.

Esmay fails to teach a microscope with such an adjustment means. Knob 16 is frictionally mounted to support 12 which prevents knob 16 from rotating when knob 20 is rotated. See col. 4, lines 15-25; **“As the coarse knob 16 is frictionally mounted to support 12 it is prevented from rotating when the fine knob 20, is rotated.”**). Therefore, knobs 16 and 20 are not independently rotatable, especially not at the same time. Independent rotation would enable both knobs to be rotated simultaneously or individually, and Esmay explicitly states that such independent rotation is not possible, it is prevented.

Furthermore, Claim 12 now recites that the focus drive means has a planar outer surface, wherein the removable focus adjustment knob is removably attachable to the planar outer surface. This planar outer surface is not taught or suggested by Esmay. The focus drive means is a shaft that knob 20 is attached to by inserting shaft 22 through bore 113. The focus drive means does not teach a planar outer surface that a removable adjustment knob is attached to.

Additionally, Claim 12 recites that the removable focus adjustment knob is removably attachable to the left or right side of the microscope. Esmay shows a single knob 20 and fails to teach that the knob can be removably attached to the left or right side of a microscope.

Therefore, all the limitations of Claim 12 have not been taught by Esmay and Claim 12 is novel. Claims 13-15 are dependent on allowable independent Claim 12 and consequently are novel as well. Applicants respectfully request that the rejection of Claims 12-15 be withdrawn.

Claim 15

Although Claim 15 has been argued to be novel based on its dependency upon allowable Claim 12, Applicants further argue that the subject matter of Claim 15 is novel due to its recitation of a complementary fastening means to prevent separation in the axial direction of the removable focus adjustment knob from the focus drive means during rotational movement of the removable knob, and enables rotational slippage between the removable focus adjustment knob and the focus drive means when upper and lower focusing limits are reached.

Esmay does indicate that a set screw can be used to secure knob 20 to shaft 22, but there is no complementary fastening means described that prevents separation of knob 20, and still will enable slippage between a removable focus adjustment knob and a focus drive means when upper and lower focusing limits are reached. Therefore, all the limitations of Claim 15 have not been taught by Esmay and therefore Claim 15 is novel and patentable.

The Rejection of Claims 1-3, 5-7, 9-11 and 16-19 under 35 U.S.C. § 103(a)

Claims 1-3, 5-7, 9-11 and 16-19 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. 4,616,517 (Esmay) in view of U.S. 4,158,216 (Bigelow). Applicants respectfully traverse the rejection and request reconsideration for the following reasons.

Claims 1-3

The combination of Esmay and Bigelow was cited as the grounds for rejecting Claims 1-3. Specifically, Esmay was brought in to teach a microscope with a removable interchangeable focus adjustment knob fastenable to a focus adjustment means. Bigelow was cited as a reference teaching a magnetic attachment means. Missing, however, from Esmay and Bigelow is any teaching or disclosure of a removable focus adjustment knob that is magnetically fastenable to a planar outer surface of a focus adjustment means. Also, the magnetic attachment of the removable knob to the focus adjustment means prevents separation of the two elements in the

axial direction during rotational movement of the knob, and enabling rotational slippage between the knob and the focus adjustment means when the upper and lower limits of focusing are reached.

Additionally, the combination of Esmay and Bigelow is an incorrect combination because the Bigelow reference is from a non-analogous art. An analogous art is any reference that either is within the field of the inventor's endeavor or reasonably pertinent to the particular problem with which the inventor was involved. The inventor's field of endeavor in the case at hand relates to microscopes with removable and interchangeable adjustment systems. The problem to be solved is how to removably attach a focus adjustment knob to a focus drive means (a mechanically moving component). Bigelow is certainly not in Applicants' field of endeavor.

Bigelow is also not reasonably pertinent to the particular problem sought to be answered by Applicants claimed invention. Bigelow teaches a capacitive touch control that is a knob attached to a panel using magnets. While Bigelow does teach a knob that is magnetically fastened, the knob does not rotate anything other than the knob, it is attached to a non-moving panel and is used to enter data, not move a shaft. There is no mechanical rotation of an attached adjustment means. The magnetic attachment arrangement necessary to move a shaft, is an entirely different problem than that addressed in Bigelow. Bigelow had no interest in creating a magnetic attachment that could move a mechanical adjustment means and still allow the knob to be removable. The interaction between the adjustment knob and the focus adjustments means in Claim 1 is a sophisticated attachment that requires sufficient magnetic strength, size, and positioning to enable the magnetically fastened knob to adjust focus by turning a focus drive means, while still allowing the knob to be removable. Bigelow teaches a magnetic interaction that requires no specific magnetic parameters, or requirements on the attachment. The simple interaction between the magnetic surface and knob in Bigelow does not teach or suggest a solution to the problem faced by an inventor seeking to develop a magnetic fastened focus adjusting knob that needs to not only attach the knob to an adjusting means, but do so in a manner that enables the focus adjusting knob to rotate an adjustment shaft and still allow detachability.

Therefore, a *prima facie* case of obviousness has not been made out and Claim 1 is non-obvious. Claims 2-3, which are dependent on Claim 1, are also non-obvious due to the dependency on Claim 1. Applicants request that the rejection of Claims 1-3 be withdrawn and those claims passed to allowance.

Claims 5-7 and 9-11

Similar to Claim 1, Claim 5 recites a focus adjustment means with a removable **interchangeable** focus adjustment knob. Claim 5 is non-obvious in light of the combination Esmay and Bigelow for reasons similar to the non-obviousness of Claim 1, i.e., the combination of Esmay and Bigelow fails to teach or suggest a removable knob that is **magnetically fastenable to a planar outer surface of a focus adjustment means**. Also, the magnetic attachment of the removable knob to the focus adjustment means is **prevents separation of the two elements in the axial direction during rotational movement of the knob, and enabling rotational slippage between the knob and the focus adjustment means when the upper and lower limits of focusing are reached**. Also, the combination of Esmay and Bigelow fails to teach or suggest a removable and **interchangeable** focus adjustment knob. Nothing in Bigelow or Esmay speaks of interchangeability, they either teach a conventional focus adjusting knob that is possibly removable but only attachable on a single side, or a magnetic attachment of a non-microscope knob to a panel.

Therefore, a *prima facie* case of obviousness has not been made out and Claim 5 is non-obvious. Claims 6, 7 and 9-11, which are dependent on Claim 5, are also non-obvious due to the dependency on Claim 5 and Applicants request that the rejection of Claims 5-7 and 9-11 be withdrawn and those claims passed to allowance.

Claim 16

The arguments above relating to the improper combination of Esmay with Bigelow apply equally to the patentability of Claim 16 and are not repeated to avoid redundancy. Furthermore, Claim 16 is non-obvious since it has been shown in the arguments for the novelty of Claims 12-15 that Esmay fails to teach all the limitations of Claim 12 and Bigelow fails to cure the defects of Esmay. Consequently, because Claim 16 is dependent on Claim 12 it recites limitations that

are not taught or suggested by the combination of Esmay and Bigelow. Therefore, Claim 16 is non-obvious.

Claim 17-19

The arguments above relating to the improper combination of Esmay with Bigelow apply equally to the patentability of Claims 17-19 and are not repeated to avoid redundancy. Furthermore, Claims 17-19 are non-obvious since it has been shown in the arguments for the novelty of Claims 12-15 that Esmay fails to teach all the limitations of Claims 12-15 and Bigelow fails to cure the defects of Esmay. Consequently, because Claims 17-19 are dependent on Claim 15, those claims recite limitations that are not taught or suggested by the combination of Esmay and Bigelow. Therefore, Claims 17-19 are non-obvious.

Moreover, the Examiner has compared bore 113 to a pin receiving means complementarily extending axially of the focus drive means. However, Esmay and Bigelow, or the combination of the two references, fails to teach or suggest a **pin means extending axially from the removable focus adjustment knob**. Esmay may have a bore 113 through knob 20, but there is no pin means taught or disclosed. Also, the bore, which is being compared to a pin receiving means, is **in the knob not the focus drive means**, i.e., the shaft. However, the limitation in **Claim 17 recites that the pin receiving means extends axially from the focus drive means**, i.e., the pin receiving means is in the drive means. That limitation is not taught by Esmay or Bigelow.

Therefore Claim 17 is unobvious since all the limitations of that claim, namely the pin means extending from the removable focus adjustment knob and pin receiving means extending axially from a focus drive means, are not taught or suggested by the combination. Claims 18 and 19 are dependent on Claim 17 and thus are patentable over the combination of Esmay and Bigelow because Claim 17 is patentable over that combination. Furthermore, the combination of Esmay and Bigelow fail to teach or suggest a pin means extending axially of the focus adjusting knob, and the pin receiving means extending axially from the focus drive means, that are magnetic, as recited in Claim 18.

The Rejection of Claims 20 and 21 under 35 U.S.C. § 103(a)

Claims 20 and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 4,616,517 (*Esmay*) in view of U.S. 4,158,216 (Bigelow), and in further view of U.S. 5,684,627 (Ganser). Applicants respectfully traverse the rejection and request reconsideration for the following reasons.

Claims 20 and 21 recite patentable subject, which is demonstrated above by the lack of teaching or suggestion of all the limitations of Claims 12-15 above. Specifically, all the limitations of Claims 12-15 were not taught or suggested by *Esmay*, and Bigelow has been shown to be ineffective at curing the defects of *Esmay*. Therefore, Claims 20 and 21 are patentable due to their dependency on allowable claims.

Furthermore, the rejection of Claims 20 and 21 in view of the combination of *Esmay*, Bigelow and Ganser is a quintessential hindsight reconstruction rejection. The Examiner can not pick and choose the elements from various references using Applicants' disclosure as a roadmap for the reconstruction, but that is just what has occurred here. Using a primary reference that teaches a monoaxial adjustment system for a microscope (*Esmay*) the Examiner has sought out other references that teach elements recited in Claims 20-21 in an effort to build an obviousness rejection. A person of ordinary skill in the art would not have garnered the necessary information needed to create the focus adjusting means recited in Claims 20-21 by examining the disclosures from *Esmay*, Bigelow and Ganser. Rather, there is something more needed, an inventive step that required a reformulation of the adjustment means taught by *Esmay*. *Esmay* will not allow a removable adjustment knob to be attached on either side of the microscope in spite of the indication from Ganser that an adjustment means on either side would be possible. The suggestion in Ganser is that existing or conventional focusing knobs could be attached in that way, but prior to Applicants disclosure removable adjustment knobs that are magnetically attached were not conventional or even fathomed. The Examiner has used Applicants disclosure as a road map and has determined that because it is easy to follow a blazed trail, that it is easy to make one. The fact that previous microscopes did not address the problem of supplying a single

microscope that could be adapted for right and left handed microscopists using magnetically attached focus adjustment knobs, is strong support for the ingenuity and non-obviousness of the microscope recited in Claims 20-21. Therefore, a prima facie case of obviousness has not been born out by the Examiner and Claims 20-21 are non-obvious.

Claim 21

Moreover, the Examiner indicates that prior art fails to teach the limitations of Claim 21 reciting an axial length of one focus knob being longer than the other. This size difference is described by the Examiner as a modification that is a mere change in size of a component that supplies no substantial advantage. However, the difference in axial length provides clearance to fit upon the same side as a stage drive mechanism 26, "so that adjustment of the microscope stage in the x, y and z directions, and more particularly, fine focal adjustment, may be accomplished on the same side of the microscope." (See paragraph [0038]). The decision to have one knob with an axial length greater than another was not a mere obvious change in size of a component with no substantial advantage, but it is a change that was invented to provide the option of controlling both the microscope stage and fine focus adjustment from the same side of the microscope. Therefore, Claim 21 is patentable over the combination of Esmay, Bigelow and Ganser due to the failure of that combination to teach or suggest all the limitations recited in that claim.

The Rejection of Claims 22, 24, 26-28, 30 and 32 under 35 U.S.C. § 103(a)

Claims 22, 24, 26-28, 30 and 32 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 4,616,517 (*Esmay*) in view of U.S. 5,684,627 (*Ganser*). Applicants respectfully traverse the rejection and request reconsideration for the following reasons.

The combination of Esmay and Ganser fails to teach all the claim limitations recited in Claim 22. Esmay has been cited as teaching a focusing means comprising a removable adjustment knob and a focus adjustment means. Ganser is cited as teaching the advantage of placing duplicate focus adjustment means on opposite sides of a microscope. Missing from both references is the limitation in Claim 22 for a first focus drive means with a planar outer

surface that the first removable focus adjustment knob is removably attachable. Also missing is a teaching of a second drive means with a similar structure and attachment method to a second removable focus adjustment knob.

The knobs taught in Esmay are only associated with a single drive means. Knob 16 is fastened to shaft 18 and knob 20 is attached to shaft 22. There is no indication in Esmay that the knobs can be **alternatively fastenable to either the first of second focus drive means**. Ganser fails to mend the inadequacies of Esmay. Therefore, the combination of Esmay and Ganser fails to recite a first and a second focus adjustment knob releasably and alternatively fastenable to either the first and second focus drive means. Ganser, in col. 3, lines 65-66, suggests that it may be possible to arrange an additional adjustment knob on the other side of the microscope in a manner analogous to known coaxial focusing knobs of conventional microscopes. However, there is no teaching or suggestion that the knobs are releasably and alternatively fastenable to each of the first and second focus drive means **as recited in Claim 22.**

Esmay and Ganser individually and in combination fail to teach or suggest such an arrangement. Ganser teaches the use of techniques and parts associated with known focusing knobs and conventional microscopes. **Knobs that are releasable and alternatively fastenable to the planar outer surface** of either a first or second drive means are not known or related to conventional microscopes, and were not known until the disclosure from Applicants elucidated the invention. Esmay is also devoid of any teaching that the knobs are releasable and alternatively fastenable. Therefore, several elements of Claim 22 are not taught or suggested by either Esmay or Bigelow.

The Examiner indicates that because Esmay teaches a releasable knob and Ganser teaches connection of knobs on either side, the two combined teach the adjusting knob taught in Claim 22. However, the modification of Esmay that would be required to alter the focus adjustment knobs taught in that reference would be substantial in order to construct a system with interchangeable knobs as recited in Claim 22. Nothing in Ganser or Esmay speaks of interchangeability, or alternatively attaching the knobs to two different drive means. Ganser and

Esmay either teach a conventional knob on either side, or a knob that is possibly removable but only attachable on a single drive means.

As it was previously argued for Claim 21, the combination of Esmay and Ganser also fails to teach a focus adjustment means with one removable focus adjustment knob with a greater axial length than the other. Those arguments *supra* apply equally to this analogous limitation in Claim 22. Therefore, the combination of Esmay and Ganser fails to teach or suggest multiple claim limitations recited in Claim 22. Therefore, a *prima facie* case of obviousness has not been established for Claim 22, and all claims that are dependent on that claim. Applicants respectfully submit that Claim 22-26 are patentable and request withdrawal of the rejection of those claims.

Claim 24 and 30

Esmay is cited as teaching the pin means extending axially of the removable focus adjustment knob and pin receiving means complementarily extending axially of the focus drive means. As argued previously for Claim 17, Esmay does not teach a **pin means extending axially from the removable focus adjustment knob** or a complementary pin receiving means. For brevity the arguments are not repeated, but it is sufficient to say that Esmay does not teach such pin means and neither does Ganser. Therefore, the combination fails to establish a *prima facie* case of obviousness for Claim 24 and 30 and those claims are patentable.

Claim 27-32

Esmay is cited as teaching a focus means comprising a first coarse and removable focus adjustment knobs and a drive means, and Ganser is cited as teaching the placement of duplicate focus adjustment means on opposite sides of a microscope. The combination, therefore, is determined to be obvious. However, Ganser (col. 3, lines 65-66) suggests that it may be possible to arrange an additional adjustment knob on the other side of the microscope in a manner analogous to known coaxial focusing knobs of conventional microscopes. However, there is no teaching or suggestion that the knobs are releasably and alternatively fastenable to each of the first and second focus drive means in either Esmay or Ganser.

Therefore, Esmay and Ganser individually and in combination fail to teach or suggest such an arrangement. Ganser teaches the use of techniques and parts associated with **known**

focusing knobs and **conventional** microscopes. However, **knobs that are releasable and alternatively fastenable** to either a first or second drive means are not known or related to conventional microscopes, and were not known until the disclosure of Applicants elucidated that invention. Esmay is also devoid of any teaching that the knobs are releasable and alternatively fastenable. Therefore, elements of Claim 27 are not taught or suggested by either Esmay or Bigelow.

The Examiner indicates that because Esmay teaches a releasable knob and Ganser teaches connection of knobs on either side, the two combined teach the adjusting knob taught in Claim 27. However, the modification of Esmay that would be required on the focus adjustment knobs taught in that reference would be substantial to construct a system with interchangeability of the knobs. **Nothing in Ganser or Esmay speaks of interchangeability**, they either teach a conventional knob on either side, or a knob that is possibly removable, but only attachable on a single side.

For all the reasons above Claim 27 is non-obvious. Claim 28 is also non-obvious because of its dependency on Claim 27, and because it recites elements untaught by the combination of Esmay and Ganser. Specifically, one adjustment knob that has a greater axial length than the other (see arguments *supra* regarding Claim 21). Furthermore, Claims 29-32 are also non-obvious due there dependency on allowable Claim 27.

The Rejection of Claims 23, 25, 29 and 31 under 35 U.S.C. § 103(a)

Claims 23, 25, 29 and 31 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 4,616,517 (*Esmay*) in view of U.S. 5,684,627 (*Ganser*), and in further view of U.S. 4,158,216 (*Bigelow*). Applicants respectfully traverse the rejection and request reconsideration for the following reasons.

Claims 23 is patentable over the combination of Esmay, Ganser and Bigelow because that combination fails to teach or suggest all the elements recited in Claim 23. Specifically, Ganser, in col. 3, lines 65-66, suggests that it may be possible to arrange an additional adjustment knob on the other side of the microscope in a manner analogous to known coaxial focusing knobs of

conventional microscopes. However, there is no teaching or suggestion that the knobs are **releasably and alternatively fastenable** to each of the first and second focus drive means.

Esmay, Ganser and Bigelow individually and in combination fail to teach or suggest such an arrangement. Ganser teaches the use of techniques and parts associated with **known** focusing knobs and **conventional** microscopes. However, **knobs that are releasable and alternatively fastenable** to either a first or second drive means were not related to conventional microscopes or known until Applicants' disclosure. Esmay and Bigelow are also devoid of any teaching of focus adjustment knobs that are releasable and alternatively fastenable. Therefore, all the limitations of Claim 23 are not taught or suggested by the combination of Esmay, Ganser and Bigelow, and a *prima facie* case of obviousness has not been made out.

The Examiner indicates that because Esmay teaches a releasable knob, and Ganser teaches connection of knobs on either side, the logical conclusion from the Examiner is that the two combined teach the adjusting knob taught in Claim 23. However, the modification of Esmay that would be required on the focus adjustment knobs taught in that reference would be substantial to construct an adjustment system with knobs that are releasably and alternatively fastenable to either a first or second focus drive means, i.e., interchangeability of the knobs. Nothing in Esmay, Ganser, or Bigelow individually or in combination teaches or suggests this type of focus adjustment system. They either teach a conventional knob on either side, or a knob that is possibly removable, but not releasable and alternative attachment of a focus adjustment knob.

Since elements of Claim 23 are not taught or suggested by the combination of Esmay, Ganser and Bigelow, a *prima facie* case of obviousness has not been established for Claim 23. Therefore, Claim 23 is patentable over Esmay, Ganser and Bigelow.

Claim 25

The combination of Esmay, Ganser and Bigelow fail to teach all the limitations of Claim 25. For example, Claim 25 recites that magnetic pin means and pin receiving means extending axially of each of said first and second focus adjustment means and the first and second drive means are used to attach a first and second removable focus adjustment means to the first and

second drive means, respectively. It has been shown that the pin means and pin receiving means recited in Claim 25 taught by the combination of Esmay and Bigelow (see arguments *supra* for Claim 17 which recites a similar pin system as Claim 25), and since Ganser does not cure the defects of those references the arguments *supra* related to Claims 17-19 apply to the patentability of Claim 25 as well.

Moreover, above it was shown that the combination of Esmay, Ganser and Bigelow did not teach or suggest a two focus adjustment means that are releasably fastenable to either a first or second drive means for Claim 23. Therefore, all the limitation recited in Claim 25 have not been taught or suggested by the combination of Esmay, Ganser and Bigelow and Claim 25 recites allowable subject matter.

Claim 29 and 31


The arguments regarding the patentability of Claim 22 and 23 *supra* are relied on for the patentability of Claims 29 and 31, but are not repeated. Claim 22 was argued to be patentable over the combination of Esmay and Ganser, and Claim 29 and 31 are patentable over the combination of Ganser, Esmay and Bigelow for the same reasons. Bigelow offers no teaching that would cure the defects of the combination of Esmay and Ganser. Furthermore, the arguments for the patentability of Claim 23 further emphasize the lack of teaching from the combination of Esmay, Ganser and Bigelow for the limitations of Claims 29 and 31. For all the reason above, Claims 29 and 31 recite allowable subject matter and the rejection of those claims should be withdrawn.

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Conclusion

Applicants respectfully submit that the present application is in condition for allowance, which action is courteously requested. The Examiner is invited and encouraged to contact the undersigned agent of record if such contact will facilitate an efficient examination and allowance of the application.

Respectfully submitted,



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